COMMUNITY PARTICPATION AND SUSTAINABILITY OF WATER SOURCES PROJECTS IN MBARARA DISTRICT- UGANDA

A CASE STUDY OF KASHARE SUB-COUNTY

BY

MUGISHA MICHEAL

A THESIS

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
for the degree of

MASTER OF DEVELOPMENT POLICY

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Committee in charge:

Professor Changyong CHOI, Supervisor _____

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ABSTRACT

COMMUNITY PARTICPATION AND SUSTAINABILITY OF WATER SOURCES PROJECTS IN MBARARA DISTRICT- UGANDA

By

Mugisha Micheal

Sustainability of projects is something international organizations, governments, non-government organizations, donor agencies and communities have over time desired as a means to guarantee that positive gains are distributed to end users for a long period of time. The phenomenon of community participation and sustainability is brought to attention by this study through focusing on water sources projects which are implemented to improve the quality of water supply and life of communities. There are two hundred and fifty one water sources that are non-functional and abandoned which have greatly affected water coverage in Kashare Sub-country, even though huge investments that have been injected in the water sector together with different measures implemented to promote their sustainability. This problems has also raised concerns among donors and Government as to why they are non-functional and abandoned water sources despite various initiatives to promote their sustainability.

This study sought to establish the relationship between community participation in planning, implementation and maintenance and sustainability of water sources and find out how each of these variables influences sustainability of water sources. Both qualitative and quantitative approaches were adopted by this study, the sample size was fifty five respondents. Data was

collected using questionnaires and interview structure then analyzed through descriptive statistics where frequency and percentage tables were used to represent the field findings.
The study also used STATA to edit, code and analyze primary data collected. The study applied multiple regression analysis model to determine the relative significance of planning, implementation and maintenance with respect to sustainability of water sources.

The findings of the study revealed that community participation in planning, implementation and maintenance do influences sustainability of water sources in Kashare Sub-county. The regression results revealed of the three factors of the study, maintenance influenced sustainability to a larger extent than planning and implementation, although all three factors when regressed independently, they were all highly significant with a P value less than zero point zero one which is statistically significant at the level of one percent The findings of the study further revealed that all three factors had a strong positive direction with sustainability.

The study also found out that some of the grievances of the communities members were, inactive participation by the community in determining the project duration under planning process; most of the water user committees were not active and community members have not been adequately trained on how to repair and manage water sources in case they broke down and lack of transparency and accountability in collection and spending of water user fees, these affected sustainability of water sources.

Although the study concluded that, there's a significant positive relationship between community participation and sustainability of water sources, the assumption that maintenance influenced sustainability more is accepted basing on the regression results on all three factors together. The

policy implication, communities should be empowered with technical skills and knowledge on how to manage and maintain water sources.

This can be done through community based training programs. Project implementers should respect and take the views and opinions of community members, this builds community ownership and mutual close working relationships.

Key words: Community participation, water sources projects, planning, implementation, maintenance, sustainability.

DEDICATION

To my Mother, Resty Katugume

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DFID	Department of International Development
IFAD	The International Fund for Agricultural Development
I.E	For Example
IIRR	International Institute of Rural Reconstruction
KDI	Korea Development Institute
KOICA	Korea International Cooperation Agency
MDG	Millennium Development Goals
NDP	National Development Plan
NGO	National Government Organization
SA	Strongly Agree
SD	Strongly Disagree
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
UWASNET	Uganda Water and Sanitation NGO Network
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

1.0 Overview

Participation, is not a new concept in the area of development, it is a process through which stakeholders influence and share control over development initiatives, decisions and resources which affect them. In context of development, from the early 1970s, participation emerged and was widely accepted an essential operational principle needed not only for success of development initiatives, but also ensuring attainment of sustainability (Chambers, 1993).

Whereas this study broadly agrees and looks at planning, implementation and maintenance are core values in empowerment of communities to actively participate in water sources projects as a means to enhancing sustainability, it assumes that maintenance play a much crucial role in influencing sustainability through increased direct beneficiary commitment and management of water sources projects Bessette (2004).A study recently conducted by the Joint Monitoring Programme (2012) revealed that access to improved water sources has for the past years been lower in rural sub-Saharan Africa than any other region in the world. This implies that one in two people in sub-Saharan Africa depend on unprotected water sources such as traditional wells for domestic consumption. It is no surprise that low access to improved water sources in sub-Saharan African has been attributed to poor sustainability of water infrastructure. In an attempt to address this challenge, emphasis has been put on community participation as a means of achieving sustainability of water sources.

This research intends to investigate the relationship between community participation (specifically in planning, implementation and maintenance) and sustainability of water sources in Uganda, taking Mbarara district; Kashare Sub-county as a case study. In this study, community participation is the independent variable whereas; sustainability of water sources projects is the dependent variable.

1.2 Background of the Research

The background to this research attempts to trace the evolution and nature of community participation, current trends in provision of water sources and issues of sustainability.

For centuries, previous development interventions ignored the aspect of community participation which resulted into failed unsustainable projects. The intended beneficiaries of the project were not involved right from the initial stage of the project to its completion. Hence they did not own them, to address this issue, donors and respective Governments and project implementers employed a new strategy of community participation as key component among others to ensure project sustainability. Today's age is concerned with community participation which has emerged as one of the best alternative paradigm of development interventions since the late 1970s. The concept of community participation has been recognized as crucial factor since 1980s and it now major concern for any development process (Oakley, 1995).

Previous studies have shown that development community has shifted its focus to effective community participation as a strategy of improving the distribution of benefits of development, reach the lowest income groups and re-emphasized that the development process concerns peoples are the major stakeholders. Arguments advanced by (Chamber, 1997) and other scholars

led to development approaches to include community participation as a crucial component for enhancing project sustainability (Oakley, 1995 and Olukotun, 2008). Stanley, 2003 emphasized that "Communities must be empowered through active participation to ensure sustainability. Research carried out has also pointed out that project sustainability has been a growing issue especially in the developing world. The issues of long term viability of interventions are increasing as donor agencies and policy makers become more concerned with efficient and effective allocation of diminishing aid funds (Chamber, 1997).

The increased need for better levels of community participation among states encompasses the perspective that community participation strengthens local communities to bring about local knowledge to address problems and find sustainable solutions. Chamber (1997) reasons that this improves coordination of interventions and strategies in addition to providing a feedback mechanism to increase effectiveness of service delivery with respect to sustainability of water sources although this varies from different projects.

Zakus and Lysack (1998) argue that the benefits of community participation on sustainability of water sources are assumed due to the complexity of the process of community participation and how it is understood. The context in which community participation is promoted to ensure sustainability of water sources varies among different communities. Jwekwes and Murcott (1996) state that; lack of critical analysis of together with the conceptual ambiguity underlies many of the failed expectation of community participation on sustainability of water sources.

In 1990, global coverage use of improved drinking water sources was 75% and 54% respectively. With respect to Millennium Development Goals, it was 88% and 77% by 2015. Although the global MDG target for drinking water was met in 2010, Caucasus, Central Asia, Northern Africa, Oceania and Sub-Saharan Africa did not meet the target. Eight out of ten people without improved drinking water sources live in rural areas. Least developed countries are yet to meet the target although 42% of the current population has gained access to improved water sources since 1990. As of 2015, 663 million people globally still lack improved drinking water sources (WHO and UNICEF, 2015).

A review study recently conducted by Water.Org (2015) found out that the rural water system and sources sustainability in Africa, South Asia and Central America had water projects failure rate of about 20- 40%. This means, globally, 1/4 of all communities lack access to safe water sources, this has also increased prevalence of health complications among communities. On a sad note, water sources availability is expected to decrease in many regions in the world though future global water consumption is estimated to increase steadily in the absence of any technological progress or policy intervention (UN Water, 2013).

In Uganda, community participation has increasingly become popular and crucial for project sustainability. A policy has been put in place to advocate and empower communities to influence the direction and implementation of projects that affect them. The Ugandan Cabinet recently approved a comprehensive National Community Development Policy 2014, to guide on identification of inclusive, planning and managing development projects to promote effective participation in the country's development interventions (National Development Plan, 2014).

This new Policy has the potential to empower communities to play a greater role in designing and owning projects and other interventions that directly affect them and also drive the nation towards Uganda's National Vision 2040 (National Development Plan, 2015).

The Ugandan Government is currently implementing the Rural Water Supply strategy under the District Water and Sanitation Development Conditional Grant. This strategy entails construction and rehabilitation of piped water systems countrywide by Ministry of Water and Environment. The Ministry is also promoting rain harvesting technologies using detailed appropriate technology and effective designed water supply systems in water stressed areas in Uganda to promote use of safe water sources (Ministry of Water and Environment, 2011).

A senior government official reported that rural water sources and facilities are managed through Water User Committees. About 14% of is spent on training and supporting Water User Committees by the District Local Government. Revitalization of Community Based Management Maintenance System led to 70% of water points operated under communal management had active functioning Water User Committees in Financial Year 2009/10 representing an increase from 68% in 2008/09 (Ministry of Water and Environment, 2011).

According to the Uganda Water and Sanitation Sector Report (2009) sustainability of water sources throughout the country is greatly affected by the lack of ownership by communities towards water sources. Donor Agencies, NGO's and government stressed that when water sources are constructed, communities often expect the implementing agency to be responsible for operation and maintenance of the completed water facilities. This derails the concept of

sustainability of constructed water facilities with no value for funds spent. The relationship between project implementers and end users of water sources is also be affected.

The National Water Supply Atlas (2016), states that Uganda has 118,201 domestic water points which serve about 24 million people of which 19 million live in rural areas. An additional 6, 611 sources have been non-functional for more than 5 years and hence are considered abandoned. They are 1, 076 piped water schemes, access to safe water is 66% and rural functionality is 60% which is still lower than the target of 90% which was set to be attained in 2015. The current low levels of rural water functionality have raised concerns among development partners.

Uganda's National Water Policy (1999) states that the overall policy objectives of the Government towards water resources management, supply and sanitation are the following;

"To manage and develop water resources of Uganda in an integrated and sustainable manner in order to secure and provide water of adequate quantity and quality to meet social and economic needs of the present and future generations with full stakeholders' participation"

"To provide sustainable provision of safe water within easy reach and hygienic sanitation facilities based on management responsibility and ownership by users, to 77% of the population in rural areas and 100% in urban areas by 2015, with an effective 80-90% use and sustainability of facilities" (Mid Term Budget Paper, 2006).

The National Water Policy (1999) also "promotes and integrated approach to managing water sources in a manner that is sustainable and effectively beneficial to all citizens. This approach is based on the continued recognition of social and economic value of water. The same policy

emphasizes active participation of water sources end users in identifying, planning, implementation and maintenance of these projects as a means of promoting ownership and ensuring long term sustainability of water points throughout the country.

In Mbarara District, the functionality rate of water sources is 74% although access to safe water is 67%. Mbarara has 4,428 domestic water points which serve a population of 328,363 people of which 222,826 live in rural areas. However, 251 water points/sources have been non-functional for over 5 years and are currently considered abandoned. (National Water Supply Atlas, 2016) This has raised concern among policy makers and donors on whether communities were involved in the water projects. The issue of no value for money has also been raised due to water sources that were constructed but are currently non-functional or considered abandoned. Complaints have also been raised by communities on water scarcity especially in water stressed areas and increase in water related diseases such diarrhea amidst other water supply challenges.

With the above background, this study intends to establish the relationship between community participation in planning, implementation and maintenance and sustainability of water sources in Kashare Sub- County in Mbarara district taking into account the most crucial factor.

1.3 Statement of Problem

According to Steckler and Goodman, 1989, community participation in planning, implementation and maintenance of water sources projects will definitely guarantee sustainability for long periods of time. He argues that, once communities are involved from the

initial stages of a water source project up to its completion with an aim of improving their wellbeing, they will own them, maintain and manage them to ensure their sustainability.

In Uganda, Government and Donors have invested funds in water sources projects to improve access to safe water throughout the country especially in water stressed areas. A study recently carried out by the Ministry of Water to evaluate the South Western Towns Water and Sanitation Project after two years of its completion found that project infrastructure and other constructed water facilities such as water taps were broken. The reason for this was, communities felt the project was imposed on them and their views were not hear. Hence this disregarded their ownership to participate in managing and maintaining the project to ensure it's sustainable.

Community Based Maintenance Systems for rural water projects were strengthened by the Ministry of Water and Environment through involving water users in planning, implementation and maintenance of water projects in their locality. Water User Committees were also established and trained in order to promote ownership of water sources by end users by involving them in planning, implementation and maintenance processes. The Ministry assumed that the established Water User Committees would help in managing and operating water sources on behalf of water users through introducing by-laws to abide by when using the water sources. Despite the above interventions by the Ministry of Water, sustainability of water sources still remained a major challenge not only in Mbarara district but also countrywide.

There are 251 water sources that are non-functional and abandoned which have greatly affected water coverage in Kashare Sub-country, even though huge investments that have been injected in

the water sector together with different measures implemented to promote their sustainability. This problems has also raised concerns among donors and Government as to why they are non-functional and abandoned water sources despite various initiatives to promote their sustainability. Thus this study focused on establishing the relationship between community participation in planning, implementation and maintenance and sustainability of water sources in Kashare Sub-county in Mbarara district. The learning outcome was to show which among the three influences sustainability the most and the relationship between each factor and sustainability.

1.4 Main objective of the study

To establish the relationship between community participation and sustainability of water sources in Kashare Sub-County?

1.4.2 Specific research question

1. What is the relationship between community participation in planning and sustainability of water sources in Kashare Sub-county?

2. What is the relationship between community participation in implementation and sustainability of water sources in Kashare Sub-county?

3. What is the relationship between community participation in maintenance and sustainability of water sources in Kashare Sub-county?

1.5 Hypothesis

There is a significant positive relationship between community participation in planning, implementation, maintenance and sustainability of water sources in Kashare Sub-county.

1.6 Significance of the study

First, this research will inform policy makers, Local and Central Government and development partners on the important relationship between community participation and sustainability of water sources. This relationship is manifest through communities participating in planning, implementation and maintenance of water projects to ensure sustainability after completion.

Second, it will provide policy makers with needed information to formulate right and appropriate policies and interventions to promote community participation and sustainability. Third, the research will also contribute to already existing literature on community participation and sustainability of water sources by showing the factor that influences sustainability more.

1.7 Operational Definitions of Key Concepts

For the purpose of this study:

Water User Group: Set of individuals or households who use a specific water source.

Water User Committee: Defined as the executive organ of the Water User Groups.

Functionality of water sources: Is the ratio of functional water sources of all water sources.

Community participation: Active involvement of households including local leaders in process of planning, implementation and maintenance of water projects in their locality.

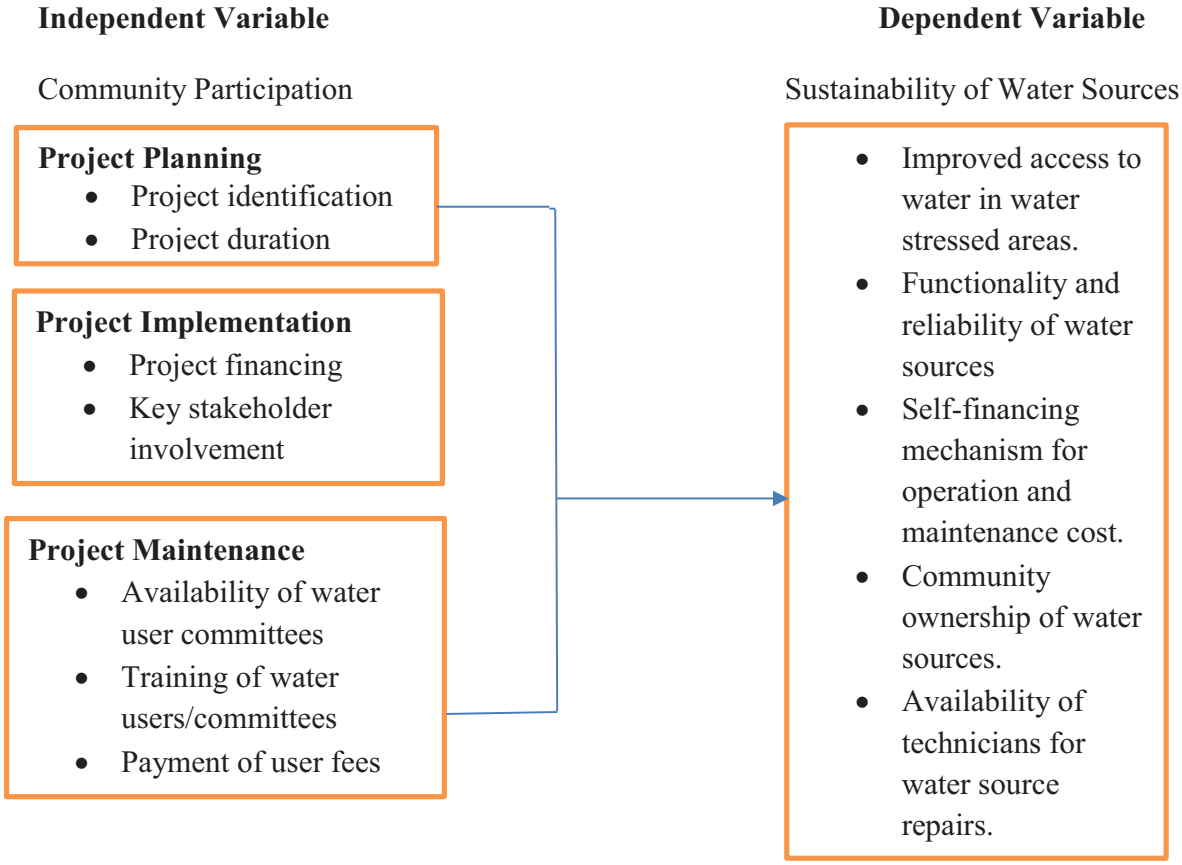
Sustainability of water sources: Situation where water sources are able to function well and provide clean water for long period of time without breaking down.

Participation in planning: Active involvement of community members in project identification, and determining the duration of the project.

Participation in maintenance: Active involvement of community members in maintenance of water sources through establishing and training Water User Committees, collection of water user fees and repairing water sources when they breakdown.

Participation in implementation: The study defined it as active involvement of community members in ensuring project effectiveness, determining financing sources and stakeholders' involvement to achieve desired results.

1.8 Graph 1: Conceptual Framework



Source: Mugisha Micheal

Figure 1: The above diagram shows the relationship between the independent variable (community participation) and dependent variable (sustainability of water sources). With regards

to project planning, it entails community participation in the initial stages of project cycle which are; the design of the project, duration, activities to be undertaken and proposed outputs to be delivered in addition to assumptions made to attain sustainability.

The implementation stage is one crucial stage for the success of any intervention/ project or program. Here focus is put on, funding sources, stakeholder involvement in effective and efficient implementation project activities to achieve sustainability.

With regards to maintenance of water sources, specific attention is given to formation of water user committees, training of water user committees and payment of water user fees essential for funding minor repairs of breakdown of water sources. These too go a long way not only to ensure sustainability but continued effectives maintenance of water sources in the event external funding is stopped.

Ultimately community participation in project planning, implementation and maintenance feed into sustainability of water sources i.e. continuous supply of safe water, improved access to water in water stressed areas and availability of funding (user fees) to finance minor repairs of water sources that break down.

1.9 Conclusion

Chapter one basically covered the introduction to this research, background, statement of the problem, research question, hypothesis, significance of the study, operational definitions and the conceptual framework. Chapter 2, 3, 4 and 5 subsequently follow.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter presents literature review related to community participation and sustainability of water sources. It starts with the concept of community participation then subsequently in line with the research question of the study, the review focuses on community participation in project planning, implementation and maintenance of water projects while analyzing what was researched and how each component affects sustainability and current trends of water sources.

2.1 Concept of Community Participation

According to Barasa and Jelagat, (2013), participation as a concept is result oriented and has a central place in development strategies with the potential to influence, change and modify development processes to benefit intended end users of a water project. On the other hand Bamberger, (1988) argues that participatory approaches are closely related with sustainable development and the role played by communities is a cardinal duty of implementing agencies to advocate and promote participation as this will go a long way to ensure project sustainability.

In the 1970's, development strategies by the development community were refocused to the notion of participation, this resulted into emergence of community participation as a major concern which required significant recognition for the need to have communities involved directly in development projects. The aim was to improve sustainability of projects and increase distribution of development benefits to the lowest groups. Moving to the 1990's, community participation became famous among development practitioners and was strengthened as a well-

established development principle with a framework; gaining support from International Development Organizations, Government and other Agencies (Oakley, 1995).

According to Oakley (1995), in the past decades, the following two schools of thought have advanced the notion of participation in most documented literature;

The first school of thought viewed participation of the community as a key aspect in development efforts in a sense that past development strategies and planners overlooked the important role of communities play in sustainability of development projects. Hence if development organizations and Governments effectively included the aspect of community participation in projects and programs, allowing communities direct how development projects should be planned, implemented and maintained since they are the direct beneficiaries then chances are high that these projects and programs would not only be successful but also sustainable with value for money (Oakley, 1995 and Burkey, 1993).

The second school of thought viewed participation as a link to empowering people to take control in solving structural causes of poverty because people are poor. Here the argument was that they have little influence in taking charge of development efforts which affect their livelihoods. Therefore community participation was a necessity to enable people work towards influencing the sustainability of projects and acquire an upper hand in accessing resources and other projects aspects that improved their livelihoods (Oakley, 1995 and Burkey, 1993).

Oakley 1995 and Burkey (1993) further argued that in the development world, participation is viewed as an end in itself as well as a means to achieving the end; this implied that

conceptualizing participation as an end in itself helped people acquire necessary technical skills, experience and knowledge needed to be more responsible over their own development that transformed their livelihoods. On the other hand, participation was also conceptualized as a means to an end, i.e. it involved a process where local people cooperate to implement and successfully sustain an externally introduced or implemented project or program. Stiglitz (1997) supported this argument by saying, community participation has gained significant attention in international and national policy formulation; therefore, it is indeed important as an end in itself, as well as a means to achieving project sustainability.

In context of Uganda, development projects have been implemented by Government, Development Agencies and Non- Government Organization, however, majority of these have either achieved little desired results or caused no significant changes in people's livelihoods. It is important to note that some water projects were abandoned while those implemented are not are in sorry state because they are not utilized and maintained by the end users. The main reason advanced among others was that stakeholders (communities) were not involved in all the project stages. This affects community ownership of the project downplays sustainability.

Whereas, Mulwa (2008) reasons that past development approaches which were top-down in nature assumed that most communities were ignorant with no ability to effectively decided and execute projects that were appropriate and tailored to their needs. He argues that communities were not empowered to create their own development priorities, rank them while identifying the most appropriate. Ford (2003) counteracts his argument by looking at community participation as an important factor for any intervention to improve people's livelihoods. He argues that

development starts with realization that there is need for communities to be involved because they are the end users. Therefore, when intended beneficiaries are involved, chances are high that they will own the project and effectively manage it to ensure its continuity.

2.3 Community participation in planning and sustainability of water sources

Ford (2003) argues that the planning stage is crucial for promoting sustainability of a water sources project. He argues that at planning stage, the need for a water project and the problem it addresses is discussed including the project budget, resource mobilization, expected completion date, designing and costing of activities, implementation plan and other. Levey and Loomba (1973) define planning as a process that not only involves formulating goals and objectives but also designing alternative action plans for achieving set goals and objectives with the community. Here, they argue that the effectiveness of set plans to achieving goals and objectives need to be evaluated before, during and after project implementation with active involvement of community members in order to arrive at desired results.

Harvey et al, (2002) state that the notion of sustainability has been called a dynamic process which comprises of interrelated components such as community members. He cites Carter et al, (1999) argument that sustainability levels are achieved at the crucial stage of planning where communities are involved and empowered to identify the right project that addresses their water needs and their views and opinions are considered in the planning process. This builds ownership and responsibility to participate in planning water projects as a means to ensuring sustainability.

Bone (1998) points out that; project planning is certainly a major stage in any sustainability model of a given project as this has the potential to affect project sustainability. He argues that with planning for sustainability, community involvement at this stage determines whether project deliverables will be sustained or not after the completion of the water sources projects.

According to Bown (2008), community participation in project planning builds their capacity to promote new values, attitudes, knowledge and technical skills among households making them agents of age. IIRR, (2012) supports his point by saying that planning acts like a guiding principle where responsibilities are spelt out and tasks are divided between the community and project implementing agencies. This implies that action-planning which also involves designing the right project to meet the needs of intended beneficiaries strengthens the project concept and also ensures that the notion of how best to ensure sustainability is taken into consideration.

One cannot talk about community participation in project planning without narrowing down to two aspects of planning to ensure sustainability of water sources, i.e. project identification and sustainability of water sources; project duration and sustainability of water sources. These are explained below;

2.3.1 Project identification and sustainability of water sources

Harvey et all, (2002) discuss that sustainability has often been referred to as a dynamic process which consists of many interrelated components such that sustainability levels are achieved as a project modifies over time. They argue that the most typical pattern of sustainability benefits start with project identification stage which involves identifying the right project that's tailored

to meet the people's needs and solve their immediate problem in a given context. Ford (2003) agrees that if communities are involved at the project identification stage, then they are most likely to own the project right from the start to its completion and manage it effectively to ensure it continuity even after external support is stopped.

Bossert (1990) contends that a project that will foster sustainability has to be planned out at the identification stage with community members as end users. He reasons that projects that are imposed by funding agencies are less likely to be sustained than projects which are an outcome of "mutually respectful" needs identification processes between communities and funders. Bermejo and Bekui (1993) and Shea et al, (1992) support his argument with the view that projects that have a participatory approach in identifying and setting goals with the community are more likely to attain sustainability than those lacking this participatory approach.

During her study to assess strategies and factors that facilitate project sustainability, Nance (2006) supported views raised by Bassert (1990) and Shea et al, (1992) by establishing that the identification stage focuses on aligning services with organizational goals, selecting acceptable and affordable services with community members which present strategies that are essential in supporting sustainability of projects i.e. projects involved in provision of health care services.

2.3.2 Project duration and sustainability of water sources

In their book "case studies of project sustainability", Bamberger and Cheema (1990) discuss that choosing how long a wide-range of projects will last; the short-term period of government and funding agencies as a result of crisis mode of operation, short budget cycles, and internal places

and so on negatively affect the project sustainability. Lanfond (1995) supports this view by giving an example of a cross-case analysis of development of health systems in developing countries; she establishes a traditional aid system features which exert a negative effect on sustainability: little or no consideration for community views on how long a project should take. Here she argues that donor agencies are accountable to communities and institutions that demand swift evidence if investments take longer periods of time than stated.

Previous debates on project durations have pointed out that short grant periods for establishing new programs hinder completing projects in a reasonable defined period of time. This view is supported by Steckler and Goodman (1989) findings in health service projects that a grant period of 3 years was too short to achieve sustainability of the new health promotion projects. They suggested agencies should consider supporting commendable projects and programs up to 5 years to enhance long term sustainability of projects. Scheirer's (1990) study of Fluoride Mouth Rinse Program in schools pointed out that the number of years in operation is related to the likelihood that a project will be sustainable.

2.4 Community participation in implementation and sustainability of water sources

Implementation is significantly important for any project success/ sustainability; it encompasses all strategies on how a project is implemented and who are the implementers. The implementation stage is well established in literature of a project's life cycle. For instance Kelly and Van (1995) argue that community participation in project implementation enhances project effectiveness through fostering community ownership of water sources projects in addition to aiding decision making process that influence sustainability. Price and Mylius (1991) support his

view with their observation that community participation in implementation process of a project is crucial to generating motivation for cost-effective sustainable project/program activities.

Bone (1998) argues that community participation in implementation is significant in influencing its long-term sustainability of water sources. Implementation fosters flexibility in tackling would be barriers to sustainability while strengthening approaches and best alternatives for the implementation process to ensure that the development interventions and project objectives and goals are met with a lasting impact on communities.

To support his argument, I will cite IFAD's, (2007) Strategic Framework 2007- 2010 which points out community participation as a tool to bringing project sustainability and intended benefits are not only maintained after project completion but exceed over the project life-cycle.

It is important to note that community participation in project implementation empowers the community to not only effectively and efficiently implement the project but also be able to maintain it after completion. It is at the implementation stage that the operation phase of the project is performed where sustainability strategies are put in place that can wither time. Project implementation entails project effectiveness, financing, involvement of stakeholders and training component to ensure sustainability (Rizkallah and Bone, 1998).

It is equally important to note that community participation in project implementation alone cannot promote sustainability with taking into account factors such as; project financing and stakeholder involvement to ensure sustainability of water sources. These components are explained below:

2.4.2 Project financing and sustainability of water sources

Whereas it agreeable that financing is a crucial factor for project sustainability, a closer analysis on international aid projects/ programs establishes that financial sustainability of water projects beyond external donor support is usually dependent on two alternatives of national funding i.e. host country government support or beneficiary support through cost-recovery mechanism. Bossert (1990) goes ahead to argue that availability of national funds after external funding has been stopped is related to efforts that entail finding alternative sources of financial support during the lifetime of the project and subsequent gradual independence from external funding, this support can be progressive absorption of recurrent costs into the national budget.

Haws et al, (1992) maintains that since financing is vital for project continuity, reliance on community financing as a funding sources for water projects has received significant attention overtime because of declining government resources and the global recession of the 1980's. This is one of the reasons that supported the suggestion of collecting of user fees and other community contributions for financial sustainability of projects.

Often times the supply and demand side aspect of financial sustainability is overlooked, on one hand Ashford and Haws (1992) argue that the availability of external resources illustrates the familiar supply side of sustainability whereas focus on the demand side of sustainability shifts attention away from the donor to the recipients' behavior. On the other hand, Mburu and Boema (1989) contend that beneficiary' willingness and ability to pay for usage of water sources a central issue for the demand side underscores the need for water sources to attain a high quality level. Bearing this in mind, it is evident to see that the demand for water sources attracts

monetary resources and inconsistent excessive external funding can constrain sustainability. Mburu and Boema, (1989) debates that this can be a case where a project requires recurrent funding for continuation that exceeds local resources.

2.4.3 Involvement of all stakeholders and sustainability of water sources

Scheirer (2005) identified involving all stakeholders in implementing project activities as one the crucial components needed for not only project success but also sustainability. She reasons that for any project to achieve sustainability, it is important to involve key stakeholders because they are; beneficiaries, important resources for the project and are directly affected by the project results. Olsen (1998) shades more light on this issue and he supports her view by emphasizing that in order for sustainability to be attained, different actors needed in the project should be organized using means that can to be dependent on, to sustain services during the project lifetime, interact with clients and communities and also deal with challenges as they arise.

Medeirol (1999) equally agrees with the views raised by Scheirer (2005) and he contends that involvement of stakeholders particularly project beneficiaries or those affected directly by the project will ultimately encourage consideration of diverse sustainability issues. This view is also reiterated by Altman (1995) who argues that sustaining water projects requires community collaboration right from the start with professionals and local leaders who represent communities, mobilize and empower them. This contributes to continuity of the project even after external support is stopped by donors or government.

2.5 Community participation in maintenance and sustainability of water sources

Broadly speaking, most development projects experience major challenges with aspects of maintenance in addition to cost recovery. Scholars have argued that a good number of projects demonstrated how newly built project infrastructure deteriorates after completion of a project because they were not maintained effectively by the end users. Therefore, the element of community participation in project maintenance is crucial and it needs to be planned effectively to build local ownership of the project at the end of external support (Dillon, 2010).

Community participation in project maintenance activities helps reduce technical, managerial, social, financial and institutional issues which are major constraints preventing achievements of sustainability of water sources projects. Brikke, (2000) agrees that in the past, community participation in project maintenance wasn't given sufficient attention and hence, it was a frequent cause of failure of projects. DFID, (1998) points outs that ignoring the crucial role communities play in maintenance of a project negatively affects the credibility of investments made in projects, sustainability and development of further projects.

Wasilwa, (2015) notes that a recent study on 121 rural water projects in Africa, Asia and Latin America found that community participation in maintenance was the most significant factor in influencing sustainability of water sources. His study also established that better results of sustainability occurred when communities were involved in the maintenance stage and if they were not involved then results on sustainability were much poorer.

Furthermore Olajuyibe (2016) acknowledges the importance of maintenance, he maintains that community participation in maintenance empowers communities to take responsibility in managing water sources by themselves which is a key pointer for sustainable community management of water projects. He debates that with maintenance, communities are able to demonstrate a high degree of responsibility in operating, managing and maintaining water sources in good conditions which also improves their functionality rate.

2.5.1 Availability of Water User Committees

Campos (2008) discusses that availability of water user committees is crucial for sustainability. He argues that all stakeholders involved in water consumption collectively design measures to maintain the water source project after completion. A lot of emphasis has been put creation of operation and management committees, these have to be clearly structured, resourced with well trained staff to be able to address issues that may affect sustainability of water sources.

Bossert (1990) is of the view that the financial ability of projects in international aid programs after donor funding ends upon project completion, depends on two source of national funding; beneficiary country government and cost-recovery mechanisms. He argues that availability of national funding after external funding has been stopped is dependent on efforts of finding other financial support sources. Alternative financial support sources during the project life cycle and gradual independence from external support will go a long way to ensure sustainability of the project in the event that donor financing is ended.

Today, the importance of community participation in project maintenance has increased such that policy makers, development partners, donors and project designers are more conscious of

the vital link between community participation in project maintenance and sustainability. NETSSAF (2008) maintains that in order to ensure sustainability of project such as water sources, it is important to have a community ownership and management approach which makes end-users form groups or user-committees responsible for operation, maintenance and management of installed water sources facilities and infrastructure.

2.5.2 Training Water user committee and sustainability of water sources

Uganda's Water and Sanitation District Implementation Manual (2010) stipulates that with each improved water sources constructed, there ought to be a well-trained water user committee (an executive arm of Water User Group). Its roles are and responsibilities are: demand and plan for improved water and sanitation, contribute fees for construction and maintenance of water facilities, operate and maintenance and revenue collection. These water user committees are mandated to enact and pass by-laws that govern water sources to ensure full functionality.

The Water Act Uganda (152) puts emphasis on the concept of community participation in maintenance of water sources and clearly describes the roles of water user groups namely; collectively plan and manage water sources system in their area, collect revenue for communities using the water sources supply system to secure funds for maintenance of the water source in addition to promoting sanitation and hygiene. All these efforts and provisions are geared towards ensuring sustainability of water sources projects to accelerate the country's attainment of 100% target of safe water coverage by 2016.

It is important to note that there has been a general improvement with regards to active functioning of water user committees, i.e. the Uganda National Water and Environment Sector Performance Report (2010) highlighted an increase from 65% to 70% of water sources under communal management. This was attributed to revival of Community Based Maintenance Systems. Furthermore, the Government of Uganda provides grants to District Local Government to support and train water user committees to effectively manage water source facilities as a means of achieving sustainability.

Consequently Bossert (1990) argues that projects with a training component for beneficiaries and key stakeholders are more likely to be sustained than those lacking this component. This is such that those trained work towards providing project benefits, train others and establish a form of electorate in support of the project/ program/ intervention.

2.5.3 Payment of user fees and sustainability of water sources

Here the assumption made by most authors such as Scheirer (2005) is that if water user's regularly collect funds for operating and maintaining water sources, then the water sources will ultimately be sustainable. The WaterAid Uganda Annual Report (2009) provides the argument that well and poorly served communities demonstrate the ability and willingness to raise funds for operating, maintaining and also do repairs for water sources that break down. This enhances efforts for continuity of water sources in the event that external funding is stopped. For example, the amount of money paid by most water users in Uganda ranges from 500 to 5000 Uganda shillings with a monthly frequency collection. It is important to note that this finding contradicts

previous operation and maintenance studies which depicted communities lack the willingness to participate in payment of user fees needed to address issues of breakdowns of water sources.

2.7 Conclusion and summary of literature review

In conclusion, literature review shows that community participation in planning, implementation and maintenance is crucial in ensuring sustainability of not only water sources but all other programs, project, interventions and so on. According to Rizkallah and Bone (1998), Mathew et al (2006), Scheirer (2005) and Wong (2004)'s sustainability model, involvement of communities in planning, implementation and maintenance of interventions is viewed as among the determinants of whether a project is sustainable or not.

However looking at the previous studies carried out, some dimensions of community participation i.e. maintenance were not adequately researched on especially their influence on sustainability.

This study assumes that community participation in maintenance of water projects is more crucial that planning and implementation to enhance sustainability. Therefore, it will contribute to already existing literature about the significance of maintenance in sustainability against planning and implementation.

CHAPTER THREE: METHODOLOGY

3.0 Chapter Overview

The research design of this study was a case study which adopted a cross-sectional design. Both quantitative and qualitative methods were used specifically descriptive statistics and regression analysis. Descriptive statistics involved use of frequencies and percentages to describe the data. A case study was preferred to gain a deeper understanding of the subject matter and the study area was Kashare Sub-county in Mbarara district. The population of this study included local leaders and community members in Kashare Sub-county, specifically those that depend on water projects for their daily livelihoods. Purposive sampling was used in selecting communities whereas systematic sampling was used to identify relevant respondents needed for the study. Kashare has 4 parishes, due to the long distance between each parish, out of the 4, 1 was randomly selected (Mitoozo Parish) for the purpose of this study and 1 village was also selected purposively based on the presence of water projects. The sample size was 55 of which 45 respondents were from households selected systematically and 10 local leaders including water user committees (Ofuoku, 2011).

Data for the study was collected through use of questionnaires and interview schedule specifically primary data while secondary data was collected from reviewing available literature and documented evidence. The researcher also distributed questionnaires to a team of community leaders living close/ in selected villages. Questionnaires were preferred because they save time, easy to quantify and analyze responses gathered (Mugenda, 2003).

The researcher used a structure questionnaire for statistical analysis for data collection using a 5 point Likert scale ranging from (5 Strongly Agree to 1 Strongly Disagree) to show the highest number, the greater the influence on sustainability. Semi-structured interview guides were also used to stimulate detailed discussions between communities and local leaders on community participation and project sustainability. Cherry, (2010); Trochim, (2006) discuss that reliability is the consistency and stability of data collection instruments against chance factors of environmental conditions in measurement of variables. For the purpose of this study, data collected was regressed using STATA and correlation analysis was also carried out.

3.1 Regression Model

The model for the study was $Y = \beta_{0+} \beta_1 X_1 + B_2 X_2 + B_3 X_3$. Where Y = Sustainability (dependent variable) and X_1 = Planning, X_2 = Implementation and X_3 = Maintenance (independent variables). The study also adopted multiple regression analysis to show the true relationship between the dependent variable and independent variables.

CHAPTER FOUR: DATA PRESENTATION, INTERPRETATION, ANALYSIS AND DISCUSSION

4.0 Introduction

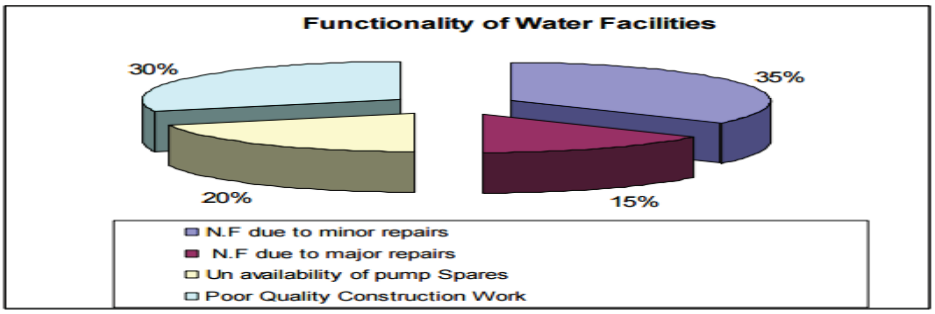
This chapter presents results and discussions from the analysis of responses from Kashare sub-county based on research question namely; what is the relationship between community participation in project planning and sustainability of water sources, is there a relationship between community participation in project implementation and sustainability of water sources, what is the relationship between community participation in project maintenance and sustainability of water sources. The hypothesis for the study was that there's a significant relationship between community participation in planning, implementation and maintenance and sustainability of water projects specifically water sources.

4.1 Functionality of Water Sources in Uganda

According to National Framework for Operation and Maintenance of rural water sources 2010, functional water sources as protected water sources that are found producing water at the time when a spot check is done. It is stated that communities and districts are responsible for ensuring that the component of long-term sustainability is incorporated in all water sources constructed. This implies that water sources should be functioning foe use by the communities at all time and the national functionality percentage should be between 80% and 90%. The major factors affecting functionality of water sources are shown in the graph below;

Graph 2: Current factors affecting functionality of water sources in Uganda

Table 4: Factors affecting Functionality of Water Sources



Source: OAG Analysis of Field Inspections

The above graph shows that majority of water sources are non-functional because of minor repairs have not been carried out over a long period of time. 30% of the water sources are non-functional due to poor quality of construction work whereas 20% are not functional because of lack of pump spare and the remaining 15% are due to major repairs. This implies that majority (70%) of the water sources are not functional because they have not been repaired after breaking down. This a critical aspect covered under operation and maintenance of water sources.

4.2 Questionnaire Response Rate

The study targeted 55 respondents out of which 35 were from selected households and the 10 were local leaders in their different capacities. All views from the 55 respondents were got, this translates into a response rate of 100% for questionnaires that were administered by a researcher hired to collect data from selected households and local leaders.

4.3 Demographic Information

The study sought to determine the demographic characteristics of the respondents based on gender, age and education levels of the respondents as seen below;

4.3.1 Table 1: Respondent's Demographic Information

Characteristic	Frequency	Percentage
Gender		
Male	22	44
Female	33	66
Total	**55**	**100**
Age		
18- 30	24	40
31- 40	15	30
41- 50	11	20
Above 50	5	10
Total	**55**	**100**
Education Level		
None	14	26
Primary School	25	45
Secondary School	10	18
Undergraduate	6	10
Postgraduate	-	-

As presented in table 1, majority (66%) of the respondents were female while male (44%) were the minorities. These findings show that majority of the household heads were females who are actively engaged in water source projects in their vicinity. Although, the findings revealed females are the majority users of water sources and thus immediate targets and beneficiaries of water projects. However, although the study implicated that females participated more in water source projects, the number of males also indicated their willingness to participate in water projects in a collective manner. In addition, the findings show that the study involved views from both the males and female specifically equal participation in project planning, implementation and maintenance avoiding gender bias.

Furthermore, the table shows that 40% of the respondents were within the age bracket between 81- 31 while 30% were between 31- 40, 20% between 41-50 and 10% 50 years and above

respectively. This implied that both youths and adults to some extent not only participate in planning, implementation and maintenance of water source projects but they are also beneficiaries. The research also sought to find the highest academic qualification among respondent. Hence, table 4.1 also reveals that majority (45%) of the respondents had primary level of education, 18% had attained secondary education whereas 10% had undergraduate level of education and 26% never attended school. None of the respondents had a postgraduate qualification. Consequently, from these findings, to a larger extent, majority of the respondents had attained a level of education capable of providing valid and reliable information about community participation and sustainability of water sources projects in their locality.

4.4.1 Community Participation in Planning for Sustainability of Water Sources

The study sought to establish the influence of community participation in project planning on sustainability of water sources in Kashari Sub-county. Descriptive statistics are presented on community participation in planning particularly project identification and duration as these two aspects not only affect ownership of the project by the community but also its sustainability. The findings are presented in the table below:

4.4.1.1 Table 2: Response on Community Participation in Planning

No.	Statement	SA	A	NS	D	SD	N
(i)	**Project Identification**						
1	Community members participate in identifying necessary water projects tailored to meet their needs.	22 (40%)	28 (51%)	0 (0%)	4 (9%)	0 (0%)	54
2	Community members participate in defining the type of water sources to be constructed.	26 (48%)	14 (26%)	4 (8%)	10 (18%)	0 (0%)	54

3	Community members participate in selection of the best and appropriate location of water sources.	10 (18%)	20 (37%)	6 (11%)	14 (26%)	4 (8%)	54
(ii)	**Project Duration**						
4	Community members participate in determining and agreeing the time frame of the water project.	8 (15%)	14 (26%)	4 (8%)	20 (37%)	8 (14%)	54
5	Community members participate in consultative meetings with all stakeholders in determining the start and completion date of the water projects.	10 (19%)	20 (38%)	5 (6%)	13 (25%)	6 (12%)	54
6	Community members define different activities that need to be performed in given period of time.	0 (0%)	15 (28%)	4 (8%)	27 (50%)	8 (14%)	54
	Observed Frequency	76 (23.3%)	111 (30%)	21 (6.8%)	89 (27.5%)	26 (8%)	

Descriptive Statistics for Respondents Demographics on Planning and Sustainability

Age Group				**Education Level**				**Gender**		**Status**	
18 - 30	31- 40	41 - 50	50+	None	Pri	Sec	Ungr	Male	Female	HH	LL
24	12	10	8	8	12	28	6	18	36	44	8

The tables shows that majority 45% of the respondents who agreed that community participation influences sustainability were between the age of 18- 30. Majority of the respondents 52% with secondary level of education agreed that community participation in planning influenced sustainability. More females 67% than males agreed that community participation also influenced sustainability whereas majority of the households 82% also agreed that community participation planning had a significant influence on sustainability of water sources.

4.4.1.2 Project Identification

Table 2 indicates that majority (51%) of the respondents strongly agreed with the statement that community members participate in identifying necessary water projects tailored to meet their needs, 40% jus agreed whereas 9% disagreed with the statement. The table also shows that majority (48%) of respondents strongly agreed with the statement that community members participate in the defining the type of water sources to be constructed, 29% just agreed while 18% disagreed with the statement and 8% were unsure. Thirty seven percent agreed with the statement that community member participate in selection of the best and appropriate location of water sources, 18% strongly agreed, on the other hand, eight percent 11% were not sure while 26% disagreed with the statement and 4% strongly disagreed.

The interpretation of the findings is that to a larger extent, majority of the community members were participating in planning for water projects specifically at the identification stage where they were engaged in identifying necessary water needs, determining type of water sources to be constructed and the appropriate location.

These finding are in agreement with observations made in other studies for instance; Harvey et all (2002)'s argument that sustainability benefits start with project identification stage which involves identifying the right project that's tailored to meet the people's needs or solve their immediate problems in a given context.

4.4.1.3 Project Duration

The findings in table 2 show that majority (37%) of the respondents disagreed with the statement

that community members participate in determining and agreeing the time frame of water projects, 14% strongly disagreed, on the other hand, 26% of the respondents agreed with the statement, only 15% strongly agreed while 8% of the respondents were not sure about the statement. Although majority 38% of the respondents agreed with the statement that community members participate in consultative meetings with all stakeholders in determining the start and completion date of the water projects, 19% strongly agreed while 25% disagreed with the statement, 12% strongly disagreed and the remaining 6% of the respondents were not sure about the statement. The table also shows that majority (50%) of the respondents disagreed with the statement that community members define activities that need to be performed in given period of time, 14% strongly disagreed, whereas, 28% agreed with the statement and 8% were not sure.

These research findings show that majority of the community members did not participate in determining and agreeing the time frame for water projects including defining activities to be performed in a given period of time though above 50% of the community members participated in consultative meetings with all stakeholders in determining the start and completion date of water projects. The study found out during an interview with one of the local leaders that the main reason why findings indicate that community members are not actively participating in the determining the project period because the duration of projects if mainly determined by donors and hired technical experts such as engineers.

Basing on the findings, the overall percentage specified that 53.3% of the respondents either strongly agreed or agreed while 35.5% disagreed or strongly disagreed that community participation in project planning affected sustainability of water sources, the remaining 8% of the

respondents were not sure.

4.4.2 Community Participation in Implementation for Sustainability of Water Sources

The study went ahead to explore the opinions of the respondents on influence of community participation in project implementation on sustainability of water sources. Focus was put on project financing and involvement of stakeholders because these of the effect they may have on community ownership of water sources and consequently sustainability. The descriptive statistical findings are in the table below;

4.4.2.1 Table 3: Responses on Community Participation in Implementation

No.	Statement	SA	A	NS	D	SD	N
(i)	**Project Financing**						
1	Community members contribute towards the implementation of water sources (cash or in-kind)	14 (26%)	25 (46%)	0 (0%)	12 (22%)	3 (6%)	54
2	Water users are aware of their obligation to contribute towards implementation of water sources.	7 (13%)	28 (52%)	5 (9%)	14 (26%)	0 (0%)	54
3	Community members are guided on funding mechanisms in the event donor/ government funding is stopped.	15 (27%)	24 (44%)	3 (6%)	8 (15%)	4 (8%)	54
(ii)	**Involvement of Stakeholders**						
4	All stakeholders in the project especially beneficiaries are involved in the implementation for project effectiveness.	25 (47%)	22 (40%)	0 (0%)	7 (13%)	0 (0%)	54
5	Government and donors implementing water projects work closely with Community leaders and the community during implementation.	15 (28%)	23 (42%)	3 (6%)	8 (15)	5 (9%)	54
6	Local leaders actively support and promote the delivery of water	30 (43%)	11 (36%)	5 (8%)	8 (15%)	0 (0%)	54

	projects.						
	Observed Frequency	106 (30.6%)	133 (43.3%)	16 (4.8%)	57 (17.6%)	12 (5%)	

Descriptive Statistics for Respondents Demographic on Implementation and Sustainability

Age Group				**Education Level**				**Gender**		**Status**	
18 - 30	31- 40	41 - 50	50+	None	Pri	Sec	Ungr	Male	Female	Re	LL
20	20	8	6	7	20	22	5	24	30	44	10

Majority 74% of the respondents who agreed that community participation in implementation influences sustainability of water sources were between 18- 31 and 31- 40 age bracket. Majority of respondents 41% who agreed that implementation influences sustainability were in secondary education whereas more females 56% than men agreed with the same view. Majority of the households and local leaders (99%) agreed with the view that community participation in implementation influenced sustainability of water sources projects.

4.4.2.2 Project Financing

Table 3 indicates that majority (46%) of the respondents agreed with the statement that community member contribute towards implementation of water sources which either be cash or in-kind, 26% strongly agreed, on the other hand, 22%) disagreed with the statement and 6% strongly disagreed. The table also shows that 52% of the respondents agreed the statement that water users were aware of their obligation to contribute towards implementation of water sources, 13% strongly agreed while 4 26% disagreed with the statement and 9% of the respondents were not sure. Furthermore, the table indicates that 44%) agreed with the statement that community members are guided on funding mechanisms in the event donor/ government funding is stopped,

27% strongly agreed, though 15% disagreed with the statement, 8% strongly disagreed and 6% were not sure.

These results imply that community members indeed contributed either in cash or in-kind (i.e. locally made materials such as sand) towards construction of water sources in their locality, they were aware of their obligation to contribute towards water source construction. The findings are also in agreement with interview results where District Officials in the Water Department and local leaders said communities are guided on other funding mechanisms for functionality of water sources incase donor/ government funding is stopped.

In addition, these findings are in agreement with observation made in other studies for instance, Bossert, (1990) says that financing is a crucial factor for project sustainability, a closer analysis on international aid projects/ programs establishes that financial sustainability of water projects beyond external donor support is usually dependent on two alternatives of national funding i.e. host country government support or beneficiary support through cost-recovery mechanism.

4.4.2.3 Involvement of Stakeholders

Table 3 indicates that majority (47%) of the study respondents agreed with the statement that all stakeholders of the project especially beneficiaries are involved in its implementation, 40% strongly agreed while 13% disagreed with the statement. The table also shows that 42% of the respondents agreed with the statement that government and donors implementing water projects work closely with Local Councils, Community leaders including communities during implementation, 28% strongly agreed, on the other hand, 15% disagreed with the statement, 9%

strongly disagreed and 6% were not sure about the statement. Forty three percent of the study respondents strongly agreed with the statement that local leaders actively support and promote the delivery of water projects, 36% just agreed though 15% disagreed and 8% were not sure.

These findings imply that involvement of all stakeholders in project implementation stage improved effectiveness of water projects in solving water needs especially increasing water supply in water stressed areas and also enhanced sustainability. In addition, interview results were in agreement with these findings that close working relationships between communities including local leaders and Government/ donors during implementing water projects motivated communities to own the project during before and after implementation. Local leaders play a great role in project implementation as they are seen as a link between the community and other stakeholders; this is why majority of the study respondents strongly agreed that their involvement ensures sustainability and functionality of water sources.

Furthermore, these findings are in agreement with observations made by Scheirer (2005), involving all stakeholders in implementing project activities is one the most crucial component needed for not only project success but also sustainability. She reasons that for any project/ program to achieve sustainability, it is significant to involve key stakeholders because they are; beneficiaries, important resources for the project and are directly affected by the project results.

The overall study percentage indicated that 73.9% of the respondents either strongly agreed or agreed that community participation in project implementation affected sustainability of water sources, on the other hand, 22.6% strongly agreed or disagreed and 4.8% were not sure.

4.4.3 Community Participation in Maintenance and Sustainability of Water Sources

The study further sought to establish the influence of community participation in project maintenance on sustainability of water sources. Focus was put on the following;

4.4.3.1 Table 4: Responses on Community Participation in Maintenance

No.	Statement	SA	A	NS	D	SD	N
(i)	**Availability of Water User Committees**						
1	New water sources have active water user committees.	9 (17%)	14 (26%)	4 (8%)	17 (31%)	10 (18%)	54
2	Water user committees are selected among water users.	30 (55%)	21 (39%)	0 (0%)	3 (6%)	0 (0%)	54
3	Water user committees receive support from the District.	13 (24%)	18 (34%)	8 (14%)	10 (18%)	5 (10%)	54
(ii)	**Training Water User Committees**						
4	Water User Committee members are trained on their roles and responsibilities.	8 (14%)	12 (22%)	4 (8%)	20 (38%)	10 (18%)	54
5	Selected community members have been trained to handle, repair and maintain your water sources?	11 (20%)	24 (44%)	4 (8%)	10 (18%)	5 (10%)	54
(iii)	**Payment of User Fees**						
6	All water users pay user fees for maintenance of water sources.	20 (37%)	18 (33%)	0 (0%)	16 (30%)	0 (0%)	54
7	Collected user fees are used to maintain and repair improved water sources in your community.	6 (12%)	12 (22%)	10 (18%)	18 (34%)	8 (14%)	54
	Observed Frequency	97 (29.8%)	119 (36.6%)	30 (9.3%)	80 (25%)	31 (10.5%)	

Descriptive Statistics for Respondents Demographics on Maintenance and Sustainability

	Age Group				Education Level				Gender		Status	
	18 - 30	31- 40	41 - 50	50+	None	Pri	Sec	Ungr	Male	Female	Re	LL
	6	28	15	5	5	10	28	11	20	34	44	10

Majority of the respondents (52%) of the respondents who agreed that community participation in maintenance influenced sustainability were between 31- 40 years of age. Majority of the respondents 71% who agreed with the same view were in undergraduate. More females (64%) than males agreed with the same view whereas both households and local leaders (99%) agreed that community participation in maintenance influenced sustainability.

4.4.3.2 Availability of Water User Committees

Table 4 indicates that majority (31%) of the study respondents disagreed with the statement that new water sources have active water user committees, 18% strongly disagreed, while 26% of the respondents agreed, 17% strongly and 8% were not sure. Majority (55%) strongly agreed water user committees are selected among water users, 39% agreed while only 6% disagreed. Thirty four percent of the respondents agreed that water user committees receive support from the District, 24% strongly agreed, although 18% of the respondents disagreed, 10% strongly disagreed and 14% were not sure.

These findings imply that majority of new and improved water sources have functioning water user committees which are selected among water users. Support from the District to water user committees has facilitated their day to day activities which in the long run have improved functionality of water sources.

These findings agree with observation made by Campos (2008) who discusses that availability of water user committees is crucial for sustainability. He argues that all stakeholders involved in water consumption collectively design measures to maintain the project upon completion. A lot of emphasis has been put creation of operation and management committees, these have to be to be clearly structured, resourced with well trained staff. The principle of community participation

in project maintenance coupled with government support to establish local community groups in charge of operation and maintenance provides assurance that the project will be sustainable.

4.4.3.3 Training Water User Committees

Table 4 also specifies that majority (38%) of the respondents disagreed with the statement that water user committee members are trained on their roles and responsibilities, 18% strongly disagreed while 22% agreed with the statement, 11% strongly agreed and 8% were not sure. Forty four percent agreed that selected community members have been trained to handle, repair and maintain your water sources, 20% strongly agreed whereas, 18% disagreed, 10% strongly disagreed and 8% were not sure.

The above findings imply that although water user committees are available according to the first observation, committee members are not effectively trained on their roles and responsibilities, this affected functionality and sustainability of water sources. In addition, these findings agree with what was found out during interview discussions; ”training opportunities/ skills especially in repair for user committees are still inadequate, in an event that water sources breaks down, the communities often have to wait for a plumber to come from the city to repair broken equipment and make any necessary maintenance.

The above findings also agree with Bossert (1990) argument that projects with a training component for beneficiaries and key stakeholders are more likely to be sustained than those lacking this component. This is such that those trained work towards providing project benefits, train others and establish a form of electorate in support of the project/ program/ intervention.

4.4.2.4 Payment of User Fees

According to table 4, majority (37%) of the respondents strongly agreed with the statement that water users paint a small fee for maintenance and functionality of water sources, 33% jus agreed while 30% disagreed with the statement. On the other hand thirty four percent of the respondents disagreed with the statement that collected user fees are used to maintain and repair improved water sources in your community, 14% strongly disagreed while 22% agreed with the statement, 12% strongly agreed while 18% were not sure.

The above findings reveal that although water user fees are paid specifically for maintenance of water sources, they are not being utilized effectively to address maintenance issues and non-functionality of identified water sources. In addition, during an interview discussion, it was found out that some members of Water User Committees use the fees for personal satisfaction rather saved to address future maintenance issues in the even donor/ government is stopped. Consequently, this affects not only sustainability of the water sources but its functionality too.
The above findings agree with assumptions made by authors such as Scheirer (2005) i.e. if water user's regularly collect funds for operating and maintaining water sources, then their water sources will ultimately be sustainable even in the event foreign funding is halted.

Overall percentages indicated that 66.4 of the respondents either strongly agreed or agreed that community participation in project maintenance affected sustainability of water sources, while 35.5% either strongly disagreed or disagreed and 9.3% of the respondents were not sure.

4.4.4 Descriptive Statistics on Sustainability of Water Sources

The table below presents views on respondents with respect to benefits of sustainability of water sources and other related benefits.

4.4.4.1 Table 5: Responses on Sustainability of Water Sources

No.	Statement	SA	A	NS	D	SD	N
	Benefits of Sustainability of Water Sources						
1	Water supply has increased including access to improved water sources.	20 (37%)	18 (33%)	0 (0%)	16 (30%)	0 (0%)	54
2	Functionality and reliability of water sources has improved in your locality.	8 (14%)	10 (18%)	11 (21%)	14 (26%)	11 (21%)	54
3	Self-financing mechanism for operation and maintenance cost of water sources are available.	4 (8%)	16 (29%)	7 (13%)	14 (26%)	13 (24%)	54
4	Technicians are available for water sources repairs and maintenance.	5 (10%)	10 (18%)	13 (25%)	18 (33%)	8 (14%)	54
	Observed Frequency	37 (17.2%)	54 (24.5%)	31 (14.7%)	62 (22.2%)	32 (14.7%)	

The findings in table 5 show that majority (37%) of the study respondents strongly agreed with the statement that water supply has increased including access to improved water sources, 33% agreed while 30% agreed. Twenty six disagreed with the statement that functionality and reliability of water sources has improved in their locality, 21% strongly disagreed, on the other hand, 18% agreed, 14% strongly agreed and 21% were not sure. Furthermore, 29% of the study respondents agreed that self-financing mechanism for operation and maintenance costs of water sources are available, 8% strongly agreed while 26% disagreed, 24% strongly disagreed and 13% were not sure. The table also shows 33% of the respondents disagreed with the statement that

technicians were available for water source repairs and maintenance, 14% strongly disagreed whereas, 18% agreed, 10% strongly agreed and 13% were not sure.

The above findings imply that although water supply has increased, functionality and reliability of water sources is still unsustainable. Self-financing mechanisms for operation and maintenance of water sources are in place, however water sources technicians are still lacking. The overall percentage shows that 36.9% of the respondents disagreed that water sources were sustainable while 41.7 agreed and 14.7 were not sure.

The next sections show the results from regressions that were carried out from the field findings; first sustainability was regressed with planning, followed by implementation and maintenance. In addition, the study also regressed the dependent variable (sustainability) with all the three independent variables (planning, implementation and maintenance) to find out which variable was statistically more significant in influencing sustainability of water sources projects. As states in the introduction, the study assumed that maintenance was statistically more significant than planning and implementation.

4.5 Regression Analysis

In order to answer the formulated research questions, regression analysis was done to determine the relationship between planning, implementation, maintenance and their influence on sustainability of water source projects. The model of the study was; $Y = \beta_0 + \beta_1 X_1 + B_2 X_2 + B_3 X_3$. Where Y = Sustainability (dependent variable) and X_1 = Planning, X_2 = Implementation and X_3 =

Maintenance (independent variables). The study used STATA statistical package to code, enter and compute multiple regressions analysis.

4.5.1 What is the relationship between community participation in planning and sustainability of water sources in Kashare Sub-county?

To answer this question, the study generated a simple linear regression model using STATA to determine the relationship between; community participation in water projects and their sustainability. In addition, the averages of planning and sustainability were generated using all questions on sustainability and planning before running the model:

Table 6: Regression Results for Sustainability and Planning

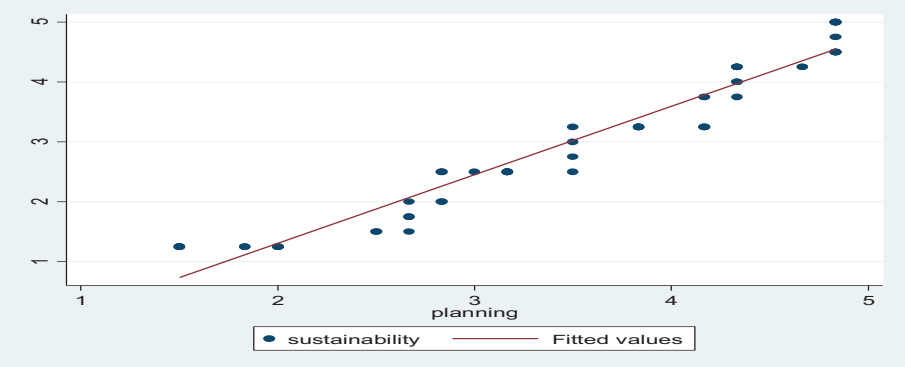
VARIABLES	(1) sustainability
planning	1.143***
	(0.0392)
Constant	-0.979***
	(0.143)
Observations	54
R-squared	0.942

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The findings presented in the above table (6) show the effect of planning on sustainability which is; with each additional 1 unit of planning, sustainability on average increases by 1.143. The coefficient of planning is highly significant with a P value less than 0.01 which is statistically significant at the level of 1%. In addition, the model's R Squared is high at 0.94 which means the variable (planning) explains about 94% of the variations in sustainability. These findings concur with studies carried out by; Bone (1998) who points out that; community participation in

planning is certainly a major stage in any sustainability model of a given project as this will have the potential to affect and influence its sustainability. He argues that with planning for sustainability, community involvement at this stage determines whether project deliverables will be sustained or not after the completion of the water sources projects.

Graph 3: A scatter plot showing the relationship between sustainability and planning



Source: *Primary findings from the field*

The above scatter plot indicates; a linear relationship between planning and sustainability. The linear curve formulated follows on an upper trend from the left to right meaning that there is a positive relationship between community participation in planning and sustainability of water sources projects.

Basing on the scatter plot above, the study answers the first question *"What is the relationship between community participation in planning and sustainability of water sources in Kashare Sub-county"*; there's a positive relationship between community participation in planning and sustainability of water sources is accepted and the hypothesis there is a significant positive relationship between community participation and sustainability of water sources is accepted.

4.5.2 What is the relationship between community participation in implementation and sustainability of water sources in Kashare Sub-county?

To answer this question, the study generated a simple linear regression model using STATA to determine the relationship between; community participation in water projects and their sustainability. In addition, the averages of planning and sustainability were generated using all questions on sustainability and implementation before running the model:

4.5.2.1 Table 7: Regression Results for Sustainability and Implementation

VARIABLES	(1) sustainability
implementation	1.041***
	(0.0589)
Constant	-0.963***
	(0.234)
Observations	54
R-squared	0.857

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

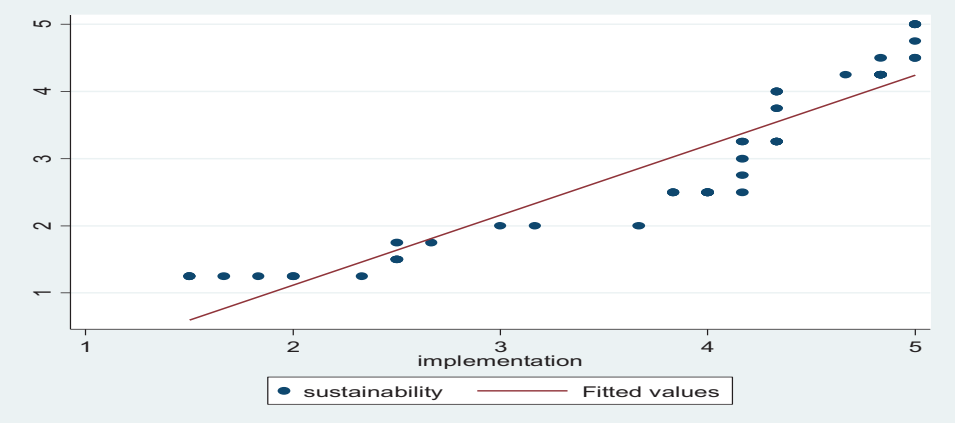
The findings presented in the table (7) shows the effect of implementation on sustainability; with each additional 1 unit of implementation, sustainability on average increases by 1.141. The coefficient of implementation is highly significant with a P value less than 0.01 which is statistically significant at the level of 1%. In addition, the model's has a high R Squared of 0.85 which means the variable (implementation) explains about 85% of the variations in sustainability.

These findings agree with Kelly and Van (1995) argument that community participation in implementation enhances sustainability through fostering community ownership of water sources

projects in addition to aiding the decision making process that influences sustainability. Studies carried out by Price and Mylius (1991) observed that community participation in implementation process of a project is crucial to generating motivation for cost-effective sustainable project/program activities that can be managed without external support.

A scatter plot was used to show the relationship between community participation in implementation and sustainability of water sources. Below is a scatter plot showing the relationship;

Graph 4: A scatter plot showing the relationship between sustainability and implementation



Source: *Primary findings from the field*

The above scatter plot shows a linear relationship between implementation and sustainability. The linear curve follows an upper trend from left to right meaning that there is a positive relationship between community participation in implementation and sustainability of water sources projects.

Basing on this scatter plot, the study consequently answers the second question; "*What is the relationship between community participation in implementation and sustainability of water sources in Kashare Sub-county",* there's a positive relationship between community participation in implementation and sustainability of water sources. Hence the hypothesis "there is a significant positive relationship between community participation in implementation and sustainability of water sources is accepted.

4.5.3 What is the relationship between community participation in maintenance and sustainability of water sources in Kashare Sub-county?

To answer this question, the study generated a simple linear regression model using STATA to determine the relationship between; community participation in water projects and their sustainability. In addition, the averages of planning and sustainability were generated using all questions on sustainability and maintenance before running the model.

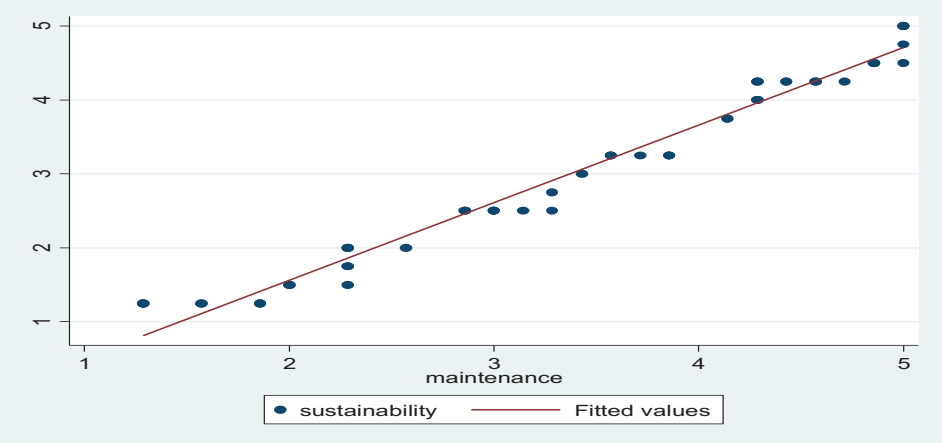
4.5.3.1 Table 8: Regression Results for Sustainability and Maintenance

VARIABLES	(1) sustainability
maintenance	1.049***
	(0.0237)
Constant	-0.535***
	(0.0846)
Observations	54
R-squared	0.974

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 8 shows the effect of maintenance on sustainability which is; with each additional 1 unit of maintenance, sustainability goes up, on average by 1.049. The coefficient of maintenance is highly significant with a P value less than 0.01 which is statistically significant at the level of 1%. Furthermore, the R Squared in the model, it is high at 0.97 which simply implies that the variable (maintenance) explains about 97% of the variations in sustainability. These findings concur with Olajuyibe (2016) observations on the importance of maintenance, he maintains that community participation in maintenance empowers communities to take responsibility in managing water sources by themselves which is a key pointer for sustainable community management of water projects.

Graph 5: A scatter plot showing the relationship between sustainability and maintenance.



Source: *Primary Findings from the field*

From the above scatter plot, it was revealed that there is a linear relationship between maintenance and sustainability. The formulated linear curve follows an upper trend from left to right meaning that there is a positive relationship between community participation in maintenance and sustainability of water sources projects.

Basing on this scatter plot, the study consequently answers the second question; "*What is the relationship between community participation in maintenance and sustainability of water sources in Kashare Sub-county",* there's a positive relationship between community participation in implementation and sustainability of water sources. Hence the hypothesis "there is a significant positive relationship between community participation in maintenance and sustainability of water sources is accepted.

The above findings agree with Dillon (2010) view that, community participation in maintenance is crucial and it needs to be planned out effectively through training and awareness programs to build local ownership of the project and enhance its continuity.

4.5.4 Table 9: Regression Results for Sustainability, Planning, Implementation and Maintenance

VARIABLES	(1) sustainability
planning	-0.312*
	(0.184)
implementation	-0.158*
	(0.0811)
maintenance	1.470***
	(0.163)
Constant	-0.268**
	(0.122)
Observations	54
R-squared	0.978

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The results in table 10 show that only maintenance is highly significant with a 1% statistically significant level. In addition, the value is positive, this implies that maintenance influences

sustainability of water sources than planning and implementation which although significant, they have negative values. These findings are in agreement with a previous study by Wasilwa (2015) on 121 rural water projects which found out that the best results of sustainability of occurred when communities actively participated in maintenance of water sources. The R squared value in the model is high at 97 which imply that planning, implementation and maintenance explain about 97% of the variations in sustainability.

A community member during an interview was quoted saying;

"The government should provide us with training programs on how best to maintain water sources because most community members lack the necessary skills to carry out maintenance works in case water sources breakdown. Therefore, we appeal to government to empower us with technical skills and knowledge on how best to maintain water sources." (6th August 2016)

Table 10: Coefficient Results for Planning, Implementation and Maintenance

VARIABLES	(1) Sustainability
Planning	-0.312*
	(0.184)
Implementation	-0.158*
	(0.0811)
Maintenance	1.470***
	(0.163)
Constant	-0.268**
	(0.122)
Observations	54
R-squared	0.978

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 10 indicates that maintenance is highly correlated with sustainability at a statistical

significance 1% level than planning and implementation. The correlation value between maintenance and sustainability of water sources projects is positive implying that an increase community participation in maintenance would lead to an increase sustainability of water sources projects.

This is in agreement with previous studies that argue that maintenance is highly correlated with sustainability of water sources. For example, a study recently conducted on 121 rural water projects in 49 African countries found that community participation in maintenance of water sources was the most significant factor contributing to sustainability of water sources (Wasilwa, 2015). The R squared value in the model is high at 97 which imply that planning, implementation and maintenance explain about 97% of the variations in sustainability.

During an interview with the District Community Officer, he said;

"Planning, implementation and maintenance in my opinion are all necessary if sustainability of water sources is to be achieved. This is why the Local Government through Community Based Organizations has developed strategies and provided incentives such as certificates and prizes to motivate community members to actively participate and take part in formulated activities right from planning to maintenance. I think this will also build the sense of ownership of water sources."

4.6 Conclusion

This chapter covered factors affecting functionality of water sources, questionnaire response, demographic information, and descriptive statistics on the responses on statements on planning, implementation, maintenance and sustainability. The chapter also covered regression analysis for sustainability on planning, implementation and maintenance. A scatter plot was also formulated to show the direction and determine the nature of the relationship between each variable.

CHAPTER FIVE: SUMMARY OF RESEARCH FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The main objective of the study was to establish the relationship between community participation and sustainability of water projects in Kashare Sub-County. This chapter is presents a summary of the research findings, conclusion, recommendation, suggestions for further research and contribution of the study.

5.2 Summary of Research Findings

The study developed research questions which were used to establish the relationship between community participation and sustainability of water sources projects. The findings on each research question are discussed below:

5.2.1 Community Participation in Planning and Sustainability of Water Sources

The study found out that majority of the community members were participating in planning stage for water projects specially; project identification where they were engaged in identifying necessary water needs, type of water sources and the ideal allocation. In context of project duration, although community members were actively participating in stakeholders meetings to determine the start and completion date of water projects, majority were not participating in the determining the time frame of the project and various activities to be performed at a given time. A strong positive relationship between community participation in planning and sustainability of water sources was observed implying the community participation in planning is strongly related

to sustainability of water sources in Kashare sub-county. In addition, the coefficient of planning was highly significant with a P value less than 0.01 which is statistically significant at the level of 1%., implying that the coefficient of planning had an effect on sustainability.

5.2.2 Community Participation in Implementation and Sustainability of Water Sources

Lack of access to clean safe water is still a challenge to Kashare Sub-county, water sources projects are a solution to this challenge. Hence, majority of the community members participated in the implementation of water project in various ways; for example contributing cash to pay for meals for construction workers. The fact that they felt obligated to contribute towards the cause of effective implementation of water sources projects built the feeling of ownership of the water sources which is one of the factors for promoting sustainability. Community member also participated in finding alternative funding sources to ensure continuity of the water sources in an event external funding was stopped. All project stakeholders were actively involved in the project implementation stage and they were also close working relationship between community members and project implementers including a strong support from local leaders towards sustainability of water sources. There was a strong positive correlation between community participation in implementation and sustainability of water sources indicating that community participation in implementation is strongly related to sustainability of water sources. Furthermore the coefficient of implementation was highly significant with a P value less than 0.01 which is statistically significant at the level of 1%., implying that the coefficient of planning had an effect on sustainability.

5.2.3 Community Participation in Maintenance and Sustainability of Water Sources

Maintenance is crucial in ensuring sustainability and plays a significant role in determining the continuity of water sources projects. The study found out that community members participated actively in water user committees which receive support from district authorities and are selected from water users to ensure sustainability. Community members also participated in trainings provided to water user committees i.e. training on repair and maintenance of water sources. They also participated in payment of water user fees which were used to fund operation, repair and maintenance costs of water sources. Furthermore, the study also observed a strong positive correlation between community participation in maintenance and sustainability of water sources demonstrating that community participation in maintenance is strongly related to sustainability of water sources. Additionally, the coefficient of maintenance was highly significant with a P value less than 0.01 which is statistically significant at the level of 1%., implying that the coefficient of planning had an effect on sustainability.

The study also found out that when sustainability is regressed with planning, implementation and maintenance, maintenance is more correlated with sustainability. This implies that maintenance influences sustainability more than planning and maintenance. Maintenance is also statistically significant with a P value less than 0.01 at a statistical significance level of 1%.

5.3 Conclusion

The study sought to establish the relationship between community participation and sustainability of water sources in Kashare Sub-county, the following are the conclusions;

The study concludes that community participation in planning particularly identification of

needed water sources and duration of the water project influences sustainability of water sources. Their participation in identifying the right project and duration ensured that their opinions are taken into consideration being the direct beneficiaries. This also increased community ownership of the project promoting their willingness to effectively sustain the project after completion.

The study also concludes that community participation in implementation influences sustainability of water sources. Implementation practices such as effective project financing and involvement of all stakeholders ensures that water projects are implemented conferring to expected financing mechanisms before, during and after the project in addition to close working relations between the end users of water sources and project implementers.

The study went ahead to conclude that community participation in project maintenance influences sustainability of water projects. Availability of active and trained water user committees especially in operating, repair and maintenance of water sources minimized breakdown of water sources and saved communities from depending on hired skilled labor which is usually expensive. Payment of user fees ensured that operation, repair and maintenance of water sources are carried out promptly at a cheap price.

Consequently, the study accepts the hypothesis that; there is a significant positive relationship between community participation in planning, implementation, maintenance and sustainability of water sources in Kashare Sub-county. In addition, the assumption that maintenance influences sustainability more than planning and implementation is also accepted.

5.4 Policy Recommendations

The study recommends that sensitization programs should be carried out to inform communities about the importance of active participation in maintenance of water sources since they are the end users. This will also enhance community ownership and managing of water sources.

The study also recommends that community should be sensitized not only on finding alternative sources of funding but also how to save effectively through collective effort to enhance prompt repairs of water sources in case of breakdowns and purchase of spare equipment.

Additionally, it is recommended that water user committees should adequately trained especially in operation, repair and maintenance of water sources. Thus will go a long way in solving issues of delays repairing water sources. This will also address challenges of hiring expensive skilled labor once selected community member have been trained and equipped with technical skills to handle issues related to water sources breakdowns.

Transparency and accountability of should be encouraged to ensure effective management of water user fees to avoid issues of dishonesty and bad spending habits of fees collected.

Implementing agencies, local leaders and other stakeholders should closely monitor and evaluate water sources projects from the start to completion to enhance their sustainability.

Consequently, it is strongly recommended that community participation should be promoted actively i.e. in planning, implementation and maintenance right from the conception of the project to the end date to and opinions and views of community members should be appreciated and considered. This also builds a sense of ownership of water sources projects.

5.5 Suggestions for further research

A study should be conducted on factors influencing community participation in water projects to ensure sustainability.

The study recommends that a similar research should be carried out in another county for example in Northern Uganda to compare with the findings of this study.

In addition, similar studies should be conducted on community participation in monitoring and evaluation of water projects and its influence on sustainability.

5.6 Contributions of the study

The study contributed to previous conducted studies by establishing that maintenance had more influence on sustainability of water sources than planning and implementation. Maintenance which was found to have a greater influence on sustainability with a statistical significance less than 0.01 at 1% statistical level of significance when regressed with planning and implementation and it influenced sustainability of water sources up to 97%.

5.7 Limitations of the Study

The study had to rely on primary field data which was expensive to gather because a data collector was paid in Uganda to travel to rural communities with water sources to distribute questionnaires and conduct interviews.

Due to budget constraints, the study was limited to using respondents' assessment as a unit of measure of community participation in planning, implementation and maintenance with respect to sustainability of water sources projects rather than the water sources projects. This also affected having a bigger sample size of the study.

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APPENDICES

Appendix 1 Letter of Transmittal

Mugisha Micheal
KDI School of Public Policy and Management
South Korea

RE: Community Participation and Project Sustainability; Water Source Projects in Mbarara District. A Case Study of Kashari Sub-County

I am Mugisha Micheal, currently studying a Master of Development Policy and KDI School of Public Policy and Management. I am conducting a research on community participation and project sustainability with specific focus on water source projects in Kashari Sub-County. You have been selected as one of the respondents to provide required information and your view is important for this study. I hence humbly request you to fill this questionnaire to the best of your ability. Your responses will be treated with utmost confidentiality and only used for this study.

Thank You

Mugisha Micheal

Appendix II: Questionnaire for the Study

Kind tick (√) where appropriate

Section A: Background Information

1: **Sex** (i) Male ( ) (ii) Female ( )

2. Indicate Age

18- 30 ( )
31- 40 ( )
41-50 ( )
Above 50 ( )

3. **What is your level of education**?

(i) None ( )
(ii) Primary School ( )
(iii) Secondary School ( )
(iv) Undergraduate ( )
(v) Postgraduate ( )

Please rate how you agree or disagree by ticking the most appropriate choice applicable to your experience in the following box. The Choices are Strongly Agree (5), Agree (4), Not Sure (3), Disagree (2) and Strongly Disagree (1).

Section B: Community Participation in Planning

No.	Statement	SA	A	NS	D	SD
(i)	**Project Identification**					
1	Community members participate in identifying necessary water projects tailored to their needs.					
2	Community members participate in determining the type of water sources to be constructed.					
3	Community members participate in selecting the best and appropriate location of water sources.					
(ii)	**Project Duration**					
4	Community members participate in determining and agreeing the time frame of the water project.					
5	Community members participate in consultative meetings with all stakeholders in determining the start and completion date of the water project duration.					
6	Community members define different activities that need to be performed in given period of time.					

Section C: Community Participation in Implementation

No.	Statement	SA	A	NS	D	SD
(i)	**Project Financing**					
1	Community members contribute towards the implementation of water sources (cash or in-kind)					
2	Water users have a financial contribution obligation towards implementation of water sources.					
3	Community members are guided on funding mechanisms in the event donor/ government funding is stopped.					
(ii)	**Involvement of Stakeholders**					
4	All stakeholders in the project especially beneficiaries are involved in the implementation stage					
5	Government and other donors implementing water projects work closely with Local Councils, Community leaders and the community during implementation.					
6	Local leaders actively support and promote the delivery of water projects.					

Section D: Community Participation in Maintenance

No.	Statement	SA	A	NS	D	SD
(i)	**Availability of Water User Committees**					
1	Water sources have active water user committees.					
2	Water user committees are selected among water users.					
3	Water user committees receive support from the District.					
(ii)	**Training Water User Committees**					
4	Water User Committee members are trained on their roles and responsibilities.					
5	Selected community members have been trained to handle, repair and maintain your water sources?					
(iii)	**Payment of User Fees**					
6	All water users pay user fees for maintenance of water sources.					
7	Collected user fees are used to maintain the improved water sources in your community.					

Section E: Sustainability of Water Sources

No.	Statement	SA	A	NS	D	SD	N
	Benefits of Sustainability of Water Sources						
1	Water supply has increased including access to improved water sources.						54
2	Functionality and reliability of water sources has improved in your locality.						54
3	Self-financing mechanism for operation and maintenance cost of water sources are available.						54
5	Technicians are available for water source repairs and maintenance.						54
	Observed Frequency						

Appendix III Interview Schedule (Structured Interview)

Mugisha Micheal
KDI School of Public Policy and Management
South Korea

RE: Community Participation and Project Sustainability; Water Source Projects in Mbarara District. A Case Study of Kashari Sub-County

I am Mugisha Micheal, currently studying a Master of Development Policy and KDI School of Public Policy and Management. I am conducting a research on community participation and project sustainability with specific focus on water source projects in Kashari Sub-County. You have been selected as one of the respondents to provide required information and your view is important for this study. I hence humbly request you to fill this questionnaire to the best of your ability. Your responses will be treated with utmost confidentiality and only used for this study.

Thank You

Mugisha Micheal

Section A: Background Information

1: **Sex** (i) Male ( ) (ii) Female ( )

2. Age

18- 30 ( )
31- 40 ( )
41-50 ( )
Above 50 ( )

3. **What is your level of education**?

(i) None ( )
(ii) Primary School ( )
(iii) Secondary School ( )
(iv) Undergraduate ( )
(v) Postgraduate ( )

Community Participation and project sustainability (water sources projects)

Questions;

1. To what extent have water projects that have been implemented in Mbarara Municipality achieved success in the context of sustainability?

2. If sustainability has not been successful, what do you think has contributed to its failure?

3. What measures have you taken to ensure that the community participates in the planning process of the water project from the start to completion?

4. What strategies have been applied to ensure that the community effectively participates in the implementation stage to ensure sustainability of the project?

5. What approaches have been used to ensure effective community participation in maintenance of water projects upon completion?

6. Does the community participate in training and sensitization programmes to promote long-term sustainability of water projects upon completion?

7. What other measures apart from user fees exist in your community that can lead to continuity of water projects in case donor and Government stop funding maintenance of water sources?

8. What suggestions do you have that may promote sustainability of water projects?